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The Preoperative Medication Management

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Editorial

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The use of medications preoperatively is currently very widespread. Approximately 50% of patients undergoing surgery take regular medications, with an average of 2.1 drugs per patient [1,2]. The most common types of medication in regular use are those for the treatment of cardiovascular, central nervous system and gastrointestinal disorders [2,3]. The mean number of medications increases with age, vascular and other major procedures [1,3].

Of these medications, 45% have some potential interaction with anaesthetic agents and surgery during the perioperative period, which may lead to bleeding, hemodynamic instability, higher anaesthetic consumption, delayed recovery from anaesthesia or respiratory, hepatic and renal complications [2-4]. Thus, the management of chronic preoperative medication presents a serious challenge for all anesthesiologists and surgeons. However, clinical and strong evidence-based guidelines regarding the preoperative medication management are limited, and there is no consensus on the optimal strategy. Many pharmaceutical companies show little interest in evaluating drug interactions [2] and because of ethical problems, it is not appropriate to conduct evidence-based clinical research.

In many cases, preoperative chronic medication (e.g. inhaled beta agonist, proton pomp inhibitors) can be safely continued and taken with a sip of clear liquid up to 2 h prior to the surgery [3,5]. Some chronic preoperative medications, such as beta blockers or L-Dopa, have potential adverse effects when discontinued abruptly, so these medications must also be continued throughout the perioperative period if oral intake is possible or temporary administration by another route [3,6,7]. However, some medications may have to be discontinued (e.g. antiplatelet agent, post-menopausal hormone therapy) or temporary alterations made to the dose schedule (e.g. subcutaneous insulin) [3,4,8]. Some agents (e.g. aspirin, MAO inhibitors) are controversial [3,4,7]. Stopping these types of medication may be associated with an increased risk of postoperative hospital mortality.

Apart from prescribed medicines, herbal remedies present another problem. Increasing numbers of people are taking herbal products on a daily basis. It has been shown that complementary and alternative medicines are used by 57.4% of the surgical population [9]. The most commonly used medicines, with past or current use combined; include herbal medicines (13%), megavitamins (9%), homeopathic medicines (1.4%), and folk remedies (1.2%). Even the pregnant population use herbal medicines with 7.1% of parturient having reported use in mid-pregnancy [10]. Many herbal medicines have potent pharmacological activity. This may lead to potentiation with anaesthetic agents (e.g. St. John's wort, kava and valerian), the risk of wound infection (e.g. Echinacea), hemodynamic instability (e.g. exaggeration of hypertension with ginseng) and bleeding problems (e.g. Ginkgo biloba, garlic) [11,12]. Unfortunately, the anesthesia literature is not specific about the time that this group of supplements should be discontinued, despite the potential to cause serious health problems and drug-herb interactions. In most cases, patients do not disclose their use and hence the anaesthesiologist may remain oblivious. In addition, it has been shown that a majority of anaesthesiologist are not aware of the potential side-effects and drug interactions of these herbal medicines.

In many countries, the anesthesiologists are mostly responsible for preoperative medication management [3]. They face problems such as potential drug interactions with anesthetic agents, pharmacokinetics and the effects of drugs in the primary pathology in the management of preoperative medical treatment. This complex issue requires a detailed history and physical examination for all patients. All prescribed and herbal medicines which the patient is still taking, and any medicine which has been discontinued within the previous three months must be documented on the preoperative visit chart. Even though general consensus exists for many chronic preoperative medications, recommendations may vary depending on the type of anaesthesia

to be used, such as general or regional, the type and duration of surgery, and patient risk factors. Preoperative anxiety and altered gastric function should also be taken into consideration. When necessary, the anesthesiologist, surgeon and consultant physicians should decide together. After making a decision to continue or discontinue the drugs, the dose and the medication should be clearly explained to the patient to avoid any misunderstanding.

Consequently, the lack of strong, evidence-base guidelines makes preoperative medication management difficult. This period should be designed carefully for each patient in the light of current guidelines, clinical trials, in vitro studies, and pharmaceutical manufacturer recommendations. It is important to ensure a safe and optimal preoperative period by communicating and collaborating as a team with the patient.

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